

REMARKS

Claims 14, 15, 18, 19, 22, 25, and 27-31 have been cancelled and new claims 32-34 have been added. Claims 32-34 are currently pending in the application.

Generally, basis for the new claims is in original claims 1 and 2 and in the excerpt on page 4, lines 1-13, of the specification.

More specifically, bases for terms in the new claims are as follows:

New Claim(s)	Term/Phrase	Basis
32	"substantially planar base substrate"	Claim 1.
32	"fabricated of a polymeric material having a glass transition temperature"	Page 4, line 2 and 5-6.
32	"having at least one substantially planar surface and having formed therein at least one microchannel of capillary dimension"	Claim 1
32	"substantially planar cover substrate fabricated of a polymeric material, the polymeric material of the cover substrate being similar to that of the base substrate"	Claim 1, and Page 4, line 2.
32	"cover substrate having at least one substantially planar surface"	Claim 1
32	Step of "apposing"	Claim 1
32	Step of "pressing ... and heating ..."	Claim 2
32	"heating to a temperature above the glass transition temperature ... for a time sufficient to bond ... without deforming the ... microchannel"	Claim 2, and Page 3, line 9.
32	Step of "reducing the temperature"	Page 4, lines 11-13.
32	"sealed interface"	Page 5, line 9.
33	"2-50C above said glass transition temperature"	Page 4, line 5.
34	"said base substrate and said cover substrate are each made of polymethylmethacrylate"	Example 6, page 17. Example 8, page 19.

No new matter has been added by the amendments.

Prior Rejections under 35 U.S.C. 112

In the Office Action dated 14 August 2003, the Examiner rejected claim 22 under 35 U.S.C. 112 second paragraph for depending on a canceled claim.

In view of the amendments canceling claim 22, Applicants submit that this rejection has been obviated and respectfully request that it be withdrawn.

Prior Rejection under 35 U.S.C. 103

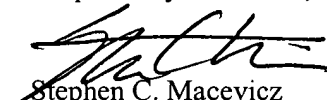
In the Office Action dated 14 August 2003, the Examiner rejected claims 14, 15, 18, 19, 22, 25, and 27-31 under 35 U.S.C. 103(a) as being unpatentable over Bracket (U.S. patent 4,875,956) in view of Parce et al (U.S. patent 5,885,470). The Examiner argued that all the steps of Applicants' invention were disclosed by Bracket, which discloses a method of thermally bonding plastic articles by forcing flat surfaces thereof together under heat and pressure in a housing that confines the articles against expansion during the process. Parce was cited to show that such articles could be microfluidic devices.

Applicants respectfully disagree with the rejection, particularly in view of the amendments. Bracket discloses a thermal bonding method suitable for objects that do not have fine structures of capillary dimensions that could be easily deformed, such as by heating to almost 100 degrees above the glass transition temperature, as the Examiner deduced from the teaching of Bracket. As amended, Applicants' method calls for heating, but with a functional limitation that the temperature not be so high as to deform any microchannels in the base substrate. Bracket does not teach or suggest this limitation, either alone or with Parce. As noted above, Parce merely discloses that microfluidics devices, i.e. devices that may contain microchannels of capillary dimension, may be made of plastics, e.g. col. 5, lines 16-29. Parce does not disclose or suggest anything about the difficulties involved in fabricating such devices out of plastic; specifically, Parce does not disclose or appreciate the problem that a plastic microstructure may be deformed during the manufacturing process.

Accordingly, Applicants respectfully request that the above rejection be withdrawn and that the application be allowed.

If any additional time extensions are required, such time extensions are hereby requested. If any additional fees not submitted with this response are required, please take such fees from deposit account **50-2266**.

Respectfully submitted,


Stephen C. Macevicz
Reg. No. 30,285
Attorney for Applicants

Telephone: (650) 210-1223

Enclosures:

Petition for Time Extension
Request for Continued Examination